

possible to walk between the plants in some places. It is safe to assume that no seed of this species would have been shed on this area after 1940, and so this seed must have laid in the ground for some 21 years without losing its viability.

A NEW INTRODUCED LAND SNAIL FOR WESTERN AUSTRALIA

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While gardening at Harvey in April 1969, one of us (E.H.S.) found two unfamiliar snails in a flower pot and forwarded them to the Western Australian Museum. An opinion on their identity was sought from Dr H. M. Laws of the South Australian Museum, who considered them to be probable *Cochlicopa lubrica* (Muller).

In mid-April 1971, Mr C. Bleechnore of Marine Terrace, Albany had a similar encounter in his garden and forwarded a large sample of living snails to the Western Australian Museum. These were similarly identified by Dr Laws.

The species has been collected for a third time, again at Harvey by E.H.S. in mid-November 1972, the snails being found on this occasion in the same area as before, on the ground beneath a pile of fallen leaves. Surprisingly, there are no known occurrences of this species as yet from the Perth district.



Fig. 1. Probable *Cochlicopa lubrica* from Albany, Western Australia, x 5.8
The line indicates actual height.

Western Australian specimens have small, elevated, cylindrically-oblong shells (Fig. 1), with a rounded apex and smooth, glossy, slightly convex, translucent whorls; there is no umbilicus. The aperture is a little oblique, discontinuous and lacks teeth, the outer margin being internally thickened. The columella is stout, straight or slightly concave and whitish. Colour generally a uniform brown. A typical shell from Albany has 5 whorls in a height of 5.6 and width of 2.4 mm.

The body colours are shades of grey, darkest on the head and neck, usually paler along the edges of the foot and on the tail. The internal organs are clearly visible through the shell. Living animals are very active in the presence of moisture. A comprehensive account of *C. lubrica* is given by Pilsbry (1948: 1045-1050) under the genus *Cionella* Jefferys, a synonym of *Cochlicopa* Risso according to Wenz (1959-60: 144-145).

C. lubrica is native to the Palaearctic and Nearctic Regions; subject to confirmation, the present records appear to be the first for the species for Western Australia and possibly Australia. A comparison of local shells with

specimens of *C. lubrica* from Hungary in the collection of the Western Australian Museum, identified and presented by Dr A. Richnovszky of Baja, Hungary, shows that the former tend to be a little wider but are otherwise quite similar. All lie within the range of variability illustrated by Pilsbry (ibid.: 1048, fig. 560) for *C. lubrica*. There is a superficial resemblance between shells of this species and those of a *Ferussacia*, introduced to and now established in South Australia since 1953 (Pomeroy and Laws, 1967). A comparison of the two species shows that the *Ferussacia* attains a larger size than *C. lubrica*, has fewer, flatter whorls, the outer lip is thin and the columella has a well defined basal fold. It is not known to occur in Western Australia.

All three samples of probable *C. lubrica* from this State are represented in the collection of the Western Australian Museum; specimens from Albany have also been deposited in the South Australian Museum, National Museum of Victoria and Australian Museum.

We thank Drs H. M. Laws, B. J. Smith and W. F. Ponder for advice and Dr. Laws for the presentation of *Ferussacia* specimens.

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BIRDS OF THE BENDER SWAMP

By ERIC H. SEDGWICK, Harvey

Summary

Bender Swamp, just west of Bender railway station and 12 km south of Harvey, covers an area of about 320 hectares, the levels being artificially controlled for farming purposes. It is a noted waterfowl haven in the South-West. In it I have recorded 37 species of aquatic birds, 11 waders, and 43 terrestrial species (including two Passerines restricted to aquatic habitats), of which occurrences and ecological notes are given.

THE SWAMP

Bender Swamp, situated 1.6 kilometres west of Bender railway station, comprises circa 320 hectares of marshland, the water level of which is controlled by a drainage system. About mid-summer surface water is drained off to permit cultivation and grazing. During the earlier years of my investigation potatoes were the main crop, with some pumpkins and maize being grown. Potato growing has now declined and more land is being used for grazing and for fodder crops.

The drains provide limited habitat for waterfowl throughout the year and the swamp proper usually provides favourable conditions from early June until January. The level of the swamp usually reaches maximum in October, at which time the average depth would be about 40 cm and the depth in the deeper parts about 90 cm. After October the level usually begins to fall.

The swamp is popular with shooters, but most shooting is done at the opening of the season. Shooting has no obvious effect upon the birds present. In 1970 and 1971 the eastern portion of the swamp was closed to hunters, this being the area in which the Freckled Duck breeds.

VEGETATION

Tea-tree, *Melaleuca raphiophylla*, surrounds the swamp and grows in clumps here and there. In these clumps Bottle-brush, *Callistemon speciosus*, and Dodder-laurel, *Cassytha racemosa*, occur.

Bulrushes, *Typha angustifolia*, abound except in the areas which are cultivated regularly. Their growth along the drains which intersect the swamp is